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PATENT
Atty. Dkt. 6303/CPI/COPPER/PJS

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

MAR 0 1 2017 Pe Application of:

Chung, et al.

Serial No.: 09/965,370

Confirmation No.: Unknown

MAR 1 3 2002

Filed:

September 26, 2001

For:

Integration of Barrier Layer

and Seed Layer

Group

Group Art Unit: Unknown

Examiner:

Unknown

Assistant Commissioner for Patents Washington, D.C. 20231

Dear Sir:

CERTIFICATE OF MAILING 37 CFR 1.8

I hereby certify that this correspondence is being deposited on February 2, 2002 with the United States Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231.

2/19/02

Signature

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

The Applicants, and the Attorney who signs below on the basis of the information supplied by the inventor and the information in his file, submit herewith patents, publications, or other information of which they are aware, which may be material to the examination of this application and in respect of which there may be a duty to disclose in accordance with 37 CFR § 1.56.

While the information submitted in this Supplemental Information Disclosure Statement may be material pursuant to 37 CFR § 1.56, it is not intended to constitute an admission that any patent, publication, or other information referred to therein is prior art for this invention unless specifically designated as such.

In accordance with 37 CFR § 1.97, this Supplemental Information Disclosure Statement is not to be construed as a representation that a search has been made or that no other possibly material information as defined under 37 CFR § 1.56(a) exists

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180.00 CH

The Applicants do not feel that a fee is necessary at this time, if the sum of \$180.00 is due under 37 CFR § 1.17(p) pursuant to § 1.97, the Commissioner is hereby authorized to charge this fee, and any other fee necessary to make this submission timely, to the Deposit Account No. 20-0782/APPM/6303/CPI/COPPER/PJS/BTP.

Respectfully submitted,

B. Todd Patterson

Registration No. 37,906

MOSER, PATTERSON & SHERIDAN, L.L.P.

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Attorney for Applicants

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	A1	4,058,430	11/15/77	Suntola et al.	156	611	11/25/1	975	
	A2	4,389,973	06/28/83	Suntola et al.	118	725	12/11/1	981	
	A3	4,413,022	11/01/83	Suntola et al.	427	255.2	06/21/1	979	
	A4	4,486,487	12/04/84	Skarp	428	216	04/25/1	983	
	A5	4,767,494	08/30/88	Kobayashi et al	. 156	606	09/19/1	986	
	A6	4,806,321	02/21/89	Nishizawa et al.	422	245	07/21/1	07/21/1985	
	Α7	4,829,022	05/09/89	Kobayashi et al	. 437	107	12/09/1	986	
	A8	4,834,831	05/30/89	Nishizawa et al.	156	611	09/04/1	09/04/1987	
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	A10	4,838,993	06/13/89	Aoki et al.	156	643	12/03/1	987	
	A11	4,840,921	06/20/89	Matsumoto	437	89	06/30/1	988	
	A12	4,845,049	07/04/89	Sunakawa	437	81	03/28/1	03/28/1988	
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	A14	4,859,627	08/22/89	Sunakawa	437	81	07/01/1	988	
	A15	4,861,417	08/29/89	Mochizuki et al.	156	610	03/24/1	988	
	A16	4,876,218	10/24/89	Pessa et al.	437	107	09/26/1	988	
	A17	4,927,670	05/22/1990	Erbil	427	255.3	06/22/1988		
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	A24	5,085,885	02/04/92	Foley et al.	477	38	09/10/1	09/10/1990	
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	A29	5,246,536	09/21/93	Nishizawa et al	. 156	610	03/10/19	989	
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	A41	5,316,615	05/31/94	Copel	117	95	03/09/19	993	
	A42	5,316,793	05/31/94	Wallace et al.	427	248.1	07/27/19	92	
	A43	5,330,610	07/19/94	Eres et al.	117	86	05/28/19	993	
	A44	5,336,324	08/09/94	Stall et al.	118	719	12/04/1991		
	A45	5,338,389	08/16/94	Nishizawa et al	. 117	89	04/21/1993		
	A46	5,348,911	09/20/94	Jurgensen et al	l. 117	91	04/26/1993		
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	A68	5,641,984	06/24/97	Aftergut et al.	257	433	08/19/1	994	
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	A71	5,705,224	01/06/98	Murota et al.	427	248.1	01/31/1	995	
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	A75	5,747,113	05/05/98	Tsai	427	255.5	07/29/1	996	
	A76	5,749,974	05/12/98	Habuka et al.	118	725	07/13/1	995	
	A77	5,796,116	08/18/98	Nakata et al.	257	66	07/25/1	995	
	A78	5,807,792	09/15/98	Ilg et al.	438	758	12/18/1	996	
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MAR 0 1 2002 U.S. Department of Commerce, Patent and Trademark Office Docket No. Serial No. AMAT/6303/CPI/ (PTO Form 1449 modified) 09/965,370 COPPER/PJS LIST OF PATENTS AND PUBLICATIONS CITED BY APPLICANT **Applicant** Chung, et al. (Use several sheets if necessary) Filing Date Group Examiner Unknown September 26, 2001 Unknown U.S. Patent Documents Document Issue Applicant(s) Class Subclass Filing Date If *Examiner Date Name Appropriate Initial Number A81 5.851.849 12/22/98 Comizzoli et al. 438 38 05/22/1997 719 A82 5.855.675 01/05/99 Doering et al. 118 03/03/1997 719 A83 5,855,680 01/05/99 Soininen et al. 118 11/28/1995 A84 01/12/99 Tsai 118 719 02/14/1998 5,858,102 A85 5.879.459 03/09/99 Gadgil et al. 118 715 08/29/1997 438 687 A86 5.904.565 05/18/1999 Nguyen, et al. 07/17/1997 92 A87 5,916,365 06/29/99 Sherman 117 08/16/1996 257 192 **88A** 5,923,056 07/13/99 Lee et al. 03/12/1998 A89 5,923,985 07/13/99 Aoki et al. 438 301 01/14/1997 07/20/99 437 31 A90 5.925.574 Aoki et al. 04/10/1992 08/24/99 118 726 08/27/1997 A91 5,942,040 Kim et al. A92 5,947,710 09/07/1999 Cooper, et al. 418 63 06/16/1997 A93 5,972,430 10/26/99 DiMeo, Jr. et al. 427 255.32 11/26/1997 **Foreign Patent Documents** Country Subclass *Examiner Document Date Class Translation Initial Number YES NO 0 442**4**90 A1 **B24** 02/14/1991 EΡ C30B 25/02 Χ B25 0 344 352 A1 ΕP 39/24 06/03/1988 H01L Χ JΡ 25/02 Χ B26 62-091495 A 04/25/1987 C30B OTHER ART Including Author, Title, Date, Pertinent Pages, Etc. *Examiner Initial C11 Klaus, et al., "Atomic Layer Deposition of Tungsten using Sequential Surface Chemistry with a Sacrificial Stripping Reaction, "Thin Solid Films 360 (2000), Pages 145 - 153, (Accepted Nov. 16, 1999).

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	A94	6,001,669	12/14/99	Gaines et al.	438	102	07/21/19	992
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	A112	6,291,876	09/18/2001	Stumborg, et al	257	632	08/20/19	98
	A113	6,305,314	10/23/2001	Sneh, et al.	118	723 R	12/17/19	99
	A114	6,306,216	10/23/2001	Kim, et al.	118	725	07/12/20	00
	A115	6,316,098	11/13/2001	Yitzchaik, et al.	428	339	03/23/19	99
	A116	2001/0000866	05/10/2001	Sneh, et al.	118	723 R	11/29/20	00
	A117	2001/0009140	07/26/2001	Bondestam, et al.	118	725	01/25/2001	
Foreign Pa	atent Doc	uments			•			
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	B30	04-031396 A	02/03/1992	JP	C30B	25/14		X
	B31	06-291048	10/18/1994	JP	H01L	21/205		Χ
	B32	08-264530	10/11/1996	JP	H01L	21/3205		X
	B33	11-269652	10/05/1999	JP	C23C	16/44		X
OTHER AF	RT							
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	C16	Lee, "The Prepar Precursors", <i>Che</i>					hlorides as	
-	C17	Martensson, et al Tetramethyl-3, 5-						

TEXAMINER. Initial if reference considered, whether or not ditation is a conformance with MPEP 609, Draw line through citation if not in conformance and not considered. Include copy of this form with your communication to applicant.

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					Chung	g, et al.			
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*Examiner Initial		Document Number	Issue Date	Applicant(s) Name	Class	Subclass	Filing Da Appropri		
	A55	5,458,084	10/17/95	Thorne et al.	117	89	12/09/19	993	
	A56	5,469,806	11/28/95	Mochizuki et al.	117	97	08/20/19	993	
	A57	5,480,818	01/02/96	Matsumoto et al.	437	40	02/09/19	993	
	A58	5,483,919	01/16/96	Yokoyama et al.	117	89	08/17/19	08/17/1994	
	A59	5,484,664	01/16/96	Kitahara et al.	428	641	01/21/19	01/21/1994	
	A60	5,503,875	04/02/96	Imai et al.	427	255.3	03/17/19	03/17/1994	
	A61	5,521,126	05/28/96	Okamura et al.	437	235	06/22/19	06/22/1994	
	A62	5,527,733	06/18/96	Nishizawa et al.	437	160	02/18/19	994	
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	A64	5,540,783	07/30/96	Eres et al.	118	725	05/26/19	05/26/1994	
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	B17	99/41423 A2	08/19/1999	WO	C23C			X	
	B18	99/29924 A1	06/17/1999	WO	C23C	16/04		X	
	B19	96/18756 A1	06/20/1996	WO	C23C	16/08		X	
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	C8			TiN and Al_2O_3 films ary 1999), pp. 7-9.	deposited	by atomic laye	r deposition	ı", Chem	
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	A118	2001/00115	526	08/09/2001	Doering, et al.	118	729	01/16/2	001				
	A119	2001/00315	62	10/18/2001	Raaijmakers, et al.	438	770	02/22/2	001				
	A120	2001/00341	23	10/25/2001	Jeon, et al.	438	643	04/06/2	001				
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	B34	2001-62244	03/1	3/2001	JP	B01D	53/34		X				
	B35	198 20 147	07/0	1/1999	DE	H01L	21/3205		X				
	B36	196 27 017	01/0	9/1997	DE	H01L	21/283		X				
	B37	2 626 110	07/2	1/1989	FR	H01L 39/24			Х				
	B38	2 692 597	12/2	4/1993	FR	C23C	16/00		X				
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	C18				on of Ti-Si-N Film 1999), pp. 207-21		rnating Sourc	e Supply", <i>I</i>	Mat., Res.				
	C19	Bedair, "Atomic	c layer	epitaxy deposit	tion processes", c	J. Vac. Sci.	Techol. 12(1)	(Jan/Feb 1	994)				
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